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<p>(54) Title: FURANONE DERIVATIVES AS INHIBITORS OF CATHEPSIN S</p> <div style="text-align: center;"> <p>(II)</p> </div> <p>(57) Abstract</p> <p>Cathepsin S is a highly active cysteine protease belonging to the papain superfamily. It is found mainly in lymph nodes, spleen, and macrophages and this limited occurrence suggests the potential involvement of this enzyme in the pathogenesis of degenerative disease. The invention relates to novel protease inhibitors, particularly inhibitors of the cysteine proteases of the papain superfamily and more particularly to Cathepsin S. The inhibitors are Furanone derivatives of Formula (II) which have a characteristic non-hydrogen substituent R5. They are selective over other members of the family and in particular show selectivity over other members of the Cathepsin family such as L and K.</p>		